

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-069108

(43)Date of publication of application : 14.03.1995

(51)Int.Cl.

B60N 2/22

B60N 2/48

F16H 1/32

(21)Application number : 06-152880

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(22)Date of filing : 10.06.1994

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(30)Priority

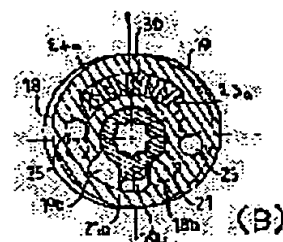
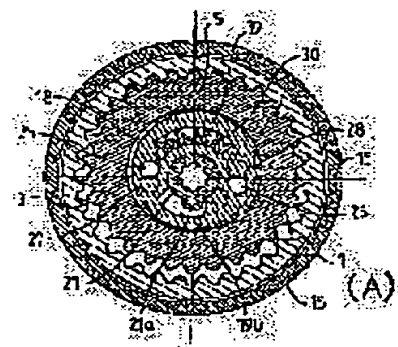
Priority number : 93 9307044 Priority date : 11.06.1993 Priority country : FR

## (54) CLEARANCE TAKE-UP ARTICULATION USED IN AUTOMOBILE SEAT

(57)Abstract:

PURPOSE: To provide an inexpensive articulation for automobile seats, the articulation taking up clearance between teeth and clearance between bearings and given irreversibility.

CONSTITUTION: An eccentric which either acts on a planetary gear 5 or directly acts on a mobile flange comprises two non-circular discs 17, 19, which take up clearance when in mutually separated positions to render an articulation irreversible.



## LEGAL STATUS

[Date of request for examination]

16.02.2000

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Number of appeal against examiner's decision  
of rejection]

[Date of requesting appeal against examiner's  
decision of rejection]

[Date of extinction of right]

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**CLAIMS**

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[Claim]

[Claim 1] It is the joint equipment of the seat for vehicles. The fixed flange 1 is received in the fixed flange 1 fixed to the first frame of a seat, the movable flange 7 fixed to the second frame of the aforementioned seat, the cup component 3 which makes an orbital motion this movable flange 7, and makes angular movement the aforementioned joint equipment, and the aforementioned movable flange 7. Have the tray material 14 to hold and two shoulders 4 and 5 are formed in the aforementioned cup component 3. The aforementioned movable flange 7 has the fraction 9 which has a gear tooth 10 and which was started partially or was hammered out. The aforementioned tray material 14 has the pars marginalis in which the method gear tooth 18 of outside which collaborates with the gear tooth 10 of the aforementioned fraction 9 of the aforementioned movable flange 7 was formed. The aforementioned gear tooth 10 of the fraction 9 which was started partially [ the gear tooth 18 of the pars marginalis of the aforementioned tray material 14 and the above ], or was hammered out is the joint equipment of the seat for vehicles characterized by having the height of the two aforementioned shoulders 4 of the aforementioned cup component 3, and eccentricity e between five equal twice, respectively.

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[Translation done.]

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## DETAILED DESCRIPTION

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[Detailed description]

[0001] this invention relates to the joint equipment (arch \*\*\*\*\*) of the seat for vehicles.

[0002] The seat for the seat for automobiles and a railroad car, the aircraft, etc. is equipped with the equipment which adjusts the lengthwise position of a seat. There is also a thing equipped with the equipment which adjusts the inclination of the head rest which most of these seats are equipped also with the equipment which adjusts the inclination of the back reclining section, and was prepared on the back reclining section of a seat.

[0003] As [ move / at all / to the impact from the side to a vehicle, and the front / in order for these devices to have to have strong resistance to various torques which it receives and to maintain the PAX of a seat in the good status / devices ]

[0004] Although the orbital-motion joint device in which it does not have an epicyclic gear (satellite) is already developed and it operates good by strong resistance, in order to increase the resistance, it is necessary to give additional \*\*\*\*. This is the purpose of the joint equipment of this invention. It is formed in the pars marginalis of the tray material which is the thing of the orbital-motion formula whose joint equipment of this invention is not the thing of an epicyclic-gear formula in this way, and combines a fixed flange and a movable flange, and additional \*\*\*\* is performed by using the gear tooth which collaborates with a part for the owner tooth part which was started partially [ a movable flange ] or was hammered out.

[0005] The fixed flange by which the joint equipment of the seat for vehicles of this invention was fixed to the first frame of a seat, The cup component which makes an orbital motion the movable flange fixed to the second frame of the aforementioned seat, and this movable flange, and makes angular movement the aforementioned joint equipment, And it sets to the joint equipment equipped with the tray material which holds the aforementioned movable flange to a fixed flange. Prepare two shoulders in the aforementioned cup component, and the aforementioned movable flange has the fraction which has a gear tooth and which was started partially or was hammered out. The aforementioned tray material has the pars marginalis in which the method gear tooth of outside which collaborates with the gear tooth of the aforementioned fraction of the aforementioned movable flange was formed. It is characterized by the aforementioned gear tooth of the fraction which was started partially [ the gear tooth of the pars marginalis of the aforementioned tray material and the above ], or was hammered out having the height of eccentricity e between the two aforementioned shoulders of the aforementioned cup component equal twice, respectively.

[0006] Other characteristic features of this invention will become clear from the following explanations.

[0007] One example of this invention is shown in the attached drawing as an example which does not restrict this invention.

[0008] Now, with reference to a drawing, drawing 2 shows the joint equipment (arch \*\*\*\*\*) which has the fixed flange 1, and mutually, this fixed flange 1 keeps the spacing

of 120 degrees, and has the boss 2 for fixing the fixed flange 1 to the frame (not shown) of the seat of a seat.

[0009] The main opening 12 which accepts the method shoulder 4 of the first outside of the cup component 3 is formed by the fixed flange 1, and, as for the aforementioned cup component 3, only distance  $e$  ( drawing 1 ) also has the second shoulder 5 from which the center shifted about the method shoulder 4 of inside. And the shoulder 5 is \*\*\*\*ing the movable flange 7.

[0010] The main channel 6 of the star which receives the shaft (not shown) with \*\*\*\* established in order to control rotation of joint equipment is formed in the cup component 3.

[0011] Like common knowledge, the annular gear tooth 11 is formed inside the fixed flange 1, and it is equipped with the internal tooth 13 of the movable flange 7 on this gear tooth 11.

[0012] The movable flange 7 is held on the fixed flange 1 through the tray material 14 stuck to the periphery edge of the fixed flange 1 by pressure. While this tray material 14 holds the movable flange 7 to the fixed flange 1, it has bent annular section 14a which permits rotating the movable flange 7 to the fixed flange 1 by carrying out the rolling motion of the internal tooth 13 on the annular gear tooth 11.

[0013] The fraction (semi-cut) or the projected part 9 which equipped the movable flange 7 with top 9a which has a gear tooth 10, respectively and which was started partially or was hammered out keeps the spacing which is 120 degrees, and is formed.

[0014] Since it enables it to fix the movable flange 7 to the frame of the back reclining section of a seat easily further at the movable flange 7, the fraction 8 which was started partially [ others ] or was hammered out is also formed.

[0015] Finally, the gear tooth 18 made as [ collaborate / with the gear tooth 10 of the aforementioned fraction 9 ] is formed in annular section 14a by which the tray material 14 was bent.

[0016] The cup component 3 is rotated through the shaft with \*\*\*\* mentioned above to adjust the inclination of the back reclining section to the seat of a seat. If it does so, it will be that the rotation drive of the movable flange 7 is carried out by eccentricity, and the gear tooth 13 of the movable flange 7 carries out the rolling motion of the gear-tooth 11 top of the fixed flange 1, and the movable flange 7 will carry out an orbital motion. although this orbital motion makes one of the gear teeth 10 of the aforementioned fraction 9 secede from the anchor tooth 18 of the tray material 14, other aforementioned fractions 9 are gradually contacted to an anchor tooth 18 through a gear tooth 10, and the aforementioned orbital motion progresses — until it is alike, it takes and the back reclining section arrives at a desired position — the third fraction 9 — and the following fraction 9 — \*\* — it passes so that it may say

[0017] Since one of gear teeth 10 is \*\*\*\*ing with the gear tooth 18, therefore the tray material 14 is being fixed to the fixed flange 1 when the back reclining section arrives at a desired position, the movable flange 7 is completely \*\*\*\*ed to the fixed flange 1.

[0018] The height of a gear tooth 18 and the height of the gear tooth 10 of a fraction 9 which was started partially or was hammered out should observe the thing of eccentricity  $e$  equal (refer to drawing 1 ) twice.

[0019] While this eccentricity can be seen to drawing 1 also as the shoulder 4 of the cup component 3, and eccentricity between five and a shoulder 4 has a center on principal-axis A-A, a shoulder 5 has a center on axis A'-A'.

[0020] Since two flanges 1 and 7 are circular, although drawing 1 and drawing 2 show the so-called "round" joint equipment, it is not necessary to also describe anew that this joint equipment can be considered as the joint equipment equipped with the so-called "half-round-head" joint equipment 7, i.e., a circular movable flange, and the fixed flange 1 of the semicircle which has the pars alaris directly fixed to the element of a seat.

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**DESCRIPTION OF DRAWINGS**

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[An easy explanation of a drawing]

[ Drawing 1 ] It is the front view of the movable flange held by tray material to the fixed flange of joint equipment, and is drawing showing that in which the method gear tooth of outside which collaborates with a part for the owner tooth part which was fixed to the fixed salient of the movable flange to the frame of the back reclining section of a seat, and which was started partially or was hammered out in the aforementioned fixed flange was formed.

[ Drawing 2 ] It is a cross section in alignment with line II-II of drawing 1 .

[An explanation of a sign]

- 1 Fixed Flange
- 3 Cup Component
- 4 Shoulder
- 5 Shoulder
- 7 Movable Flange
- 9 Fraction Which was Started Partially or was Hammered Out
- 10 Gear Tooth of Fraction 9
- 14 Tray Material
- 18 Gear Tooth of Tray Material 14

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**CORRECTION or AMENDMENT**


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[Official report class] Printing of the amendment by the convention of 2 of Article 17 of a patent law

[Section partition] The 1st section 2nd partition

[Issue date] December 25, Heisei 13 (2001. 12.25)

[A open number] Publication number 7-143920

[A open day] June 6, Heisei 7 (1995. 6.6)

[\*\*\*\* format] Open patent official report 7-1440

[Application number] Japanese Patent Application No. 6-193696

[The 7th edition of International Patent Classification]

A47C 1/025

[FI]

A47C 1/025

[Procedure revision]

[Presentation day] July 23, Heisei 13 (2001. 7.23)

[Procedure amendment 1]

[The document name for an amendment] Specification

[The subject name for an amendment] Claim

[The amendment technique] Change

[Content of an amendment]

[Claim]

[Claim 1] It is the joint equipment of the seat for vehicles.

The fixed flange 1 which is fixed to one frame of a seat and \*\*\*\*ed the method gear tooth 11 of outside,

And it has the movable flange 7 which is fixed to the frame of another side of the aforementioned seat, and \*\*\*\*ed the method gear tooth 13 of inside, and the method gear tooth 13 of the inside of the above collaborates with the way gear tooth 11 outside the aforementioned fixed flange 1. the cup component 3 with two shoulders 4 and 5 which make an orbital motion the aforementioned movable flange 7, and make angular movement the aforementioned joint equipment — and In the joint equipment of the seat for vehicles equipped with the tray material 14 which is connected with the aforementioned fixed flange and holds the aforementioned movable flange 7 to the fixed flange 1

The pars marginalis of the aforementioned tray material 14 has the way gear tooth 18, while

collaborating with the method gear tooth 10 of outside \*\*\*\*\* by the fraction 9 which the aforementioned movable flange 7 was started partially, or was hammered out.

The height of the aforementioned gear tooth 10 of the fraction 9 which was started partially [ the gear tooth 18 of the pars marginalis of the aforementioned tray material 14 and the above ], or was hammered out is the joint equipment of the seat for vehicles characterized by being equal the twice of the two aforementioned shoulders 4 of the aforementioned cup component 3, and eccentricity  $e$  between five.

[Procedure amendment 2]

[The document name for an amendment] Specification

[The subject name for an amendment] 0009

[The amendment technique] Change

[Content of an amendment]

[0009] The main opening 12 which accepts the method shoulder 4 of the first inside of the cup component 3 is formed by the fixed flange 1, and, as for the aforementioned cup component 3, only distance  $e$  (drawing 1) also has the second shoulder 5 from which the center shifted about the method shoulder 4 of inside. And the shoulder 5 is \*\*\*\*\* the movable flange 7.

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[Translation done.]